

Amendment and Response

Applicant: Brent M. Bradburn

Serial No.: 09/753,170

Filed: January 2, 2001

Docket No.: 10002892-1

Title: PIXEL PROCESSING SYSTEM FOR IMAGE PRODUCTION

IN THE CLAIMS

Please add new claims 21-30.

Please amend claims 1, 2, 8, 9, 15, and 16 as follows:

1. (Currently Amended) A method of operating a pixel processing system, the method comprising:

receiving a target pixel value and neighbor pixel values;

determining a minimum value and a maximum value among the neighbor pixel values;

if the target pixel value is less than the minimum value, then increasing the target pixel value and reducing at least one of the neighbor pixel values; and

if the target pixel value is greater than the maximum value, then reducing the target pixel value and increasing at least one of the neighbor pixel values.

2. (Currently Amended) ~~The method of claim 1 further comprising:~~ A method of operating a pixel processing system, the method comprising:

receiving a target pixel value and neighbor pixel values;

determining a minimum value and a maximum value among the neighbor pixel values;

if the target pixel value is less than the minimum value, then increasing the target pixel value and, in response to increasing the target pixel value, reducing the neighbor pixel values to maintain an average value; and

if the target pixel value is greater than the maximum value, then reducing the target pixel value and, in response to reducing the target pixel value, increasing the neighbor pixel values to maintain the average value.

3. (Original) The method of claim 2 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.

4. (Original) The method of claim 2 wherein:

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increasing the target pixel value comprises increasing the target pixel value to the minimum value; and

reducing the target pixel value comprises reducing the target pixel value to the maximum value.

5. (Original) The method of claim 2 wherein:

increasing the target pixel value comprises increasing the target pixel value half-way toward the minimum value; and

reducing the target pixel value comprises reducing the target pixel value halfway toward the maximum value.

6. (Original) The method of claim 2 wherein:

reducing the neighbor pixel values comprises reducing the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value; and

increasing the neighbor pixel values comprises increasing the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.

7. (Original) The method of claim 2 wherein the pixel processing system comprises one of a printer and a copier.

8. (Currently Amended) A pixel processing system comprising:

pixel evaluation circuitry configured to receive a target pixel value and neighbor pixel values and determine a minimum value and a maximum value among the neighbor pixel values; and

pixel adjustment circuitry configured to increase the target pixel value if the target pixel value is less than the minimum value and reduce the target pixel value if the target pixel value is greater than the maximum value,

wherein the pixel adjustment circuitry is configured to reduce at least one of the neighbor pixel values in response to increasing the target pixel value and increase at least one of the neighbor pixel values in response to reducing the target pixel value.

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9. (Currently Amended) ~~The pixel processing system of claim 8~~ A pixel processing system comprising:

pixel evaluation circuitry configured to receive a target pixel value and neighbor pixel values and determine a minimum value and a maximum value among the neighbor pixel values; and

pixel adjustment circuitry configured to increase the target pixel value if the target pixel value is less than the minimum value and reduce the target pixel value if the target pixel value is greater than the maximum value,

wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values to maintain an average value in response to increasing the target pixel value and increase the neighbor pixel values to maintain the average value in response to reducing the target pixel value.

10. (Original) The pixel processing system of claim 9 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.

11. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to increase the target pixel value to the minimum value and reduce the target pixel value to the maximum value.

12. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to increase the target pixel value half-way toward the minimum value and reduce the target pixel value halfway toward the maximum value.

13. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.

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14. (Original) The pixel processing system of claim 9 wherein the pixel processing system comprises one of a printer and a copier.

15. (Currently Amended) A product for pixel processing comprising:

pixel processing control instructions configured to direct a processor to receive a target pixel value and neighbor pixel values, determine a minimum value and a maximum value among the neighbor pixel values, increase the target pixel value if the target pixel value is less than the minimum value, and reduce the target pixel value if the target pixel value is greater than the maximum value; and

storage media that is processor-readable and that stores the pixel processing control instructions,

wherein the pixel processing control instructions are configured to direct the processor to reduce at least one of the neighbor pixel values in response to increasing the target pixel value, and increase at least one of the neighbor pixel values in response to reducing the target pixel value.

16. (Currently Amended) ~~The product of claim 15~~ A product for pixel processing comprising:

pixel processing control instructions configured to direct a processor to receive a target pixel value and neighbor pixel values, determine a minimum value and a maximum value among the neighbor pixel values, increase the target pixel value if the target pixel value is less than the minimum value, and reduce the target pixel value if the target pixel value is greater than the maximum value; and

storage media that is processor-readable and that stores the pixel processing control instructions,

wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values to maintain an average value in response to increasing the target pixel value, and increase the neighbor pixel values to maintain the average value in response to reducing the target pixel value.

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17. (Original) The product of claim 16 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.
18. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value to the minimum value and reduce the target pixel value to the maximum value.
19. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value half-way toward the minimum value and reduce the target pixel value halfway toward the maximum value.
20. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.
21. (New) The method of claim 1 wherein:
increasing the target pixel value comprises increasing the target pixel value to at least the minimum value; and
reducing the target pixel value comprises reducing the target pixel value to at least the maximum value.
22. (New) The method of claim 1 wherein:
increasing the target pixel value comprises increasing the target pixel value at least half-way toward the minimum value; and
reducing the target pixel value comprises reducing the target pixel value at least halfway toward the maximum value.
23. (New) The method of claim 1 wherein:

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reducing at least one of the neighbor pixel values comprises reducing the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value; and

increasing at least one of the neighbor pixel values comprises increasing the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

24. (New) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to increase the target pixel value to at least the minimum value and reduce the target pixel value to at least the maximum value.

25. (New) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to increase the target pixel value at least half-way toward the minimum value and reduce the target pixel value at least halfway toward the maximum value.

26. (New) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

27. (New) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value to at least the minimum value and reduce the target pixel value to at least the maximum value.

28. (New) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value at least half-way toward the minimum value and reduce the target pixel value at least halfway toward the maximum value.

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29. (New) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

30. (New) A pixel processing system comprising:

means for receiving a target pixel value and neighbor pixel values and determining a minimum value and a maximum value among the neighbor pixel values;

means for reducing at least one of the neighbor pixel values and increasing the target pixel value if the target pixel value is less than the minimum value; and

means for increasing at least one of the neighbor pixel values and reducing the target pixel value if the target pixel value is greater than the maximum value.
